

Dual-rate 100G optical module



AI Overview

A 100G dual-rate optical module is a pluggable transceiver that can operate at two different data rates, such as 40G/100G or 100G/112G, enabling flexible, cost-effective network upgrades.

Overview A dual-rate optical module is designed to support two distinct Ethernet speeds within a single hardware module. This flexibility allows network operators to reuse existing infrastructure, simplify migrations, and reduce both capital and operational expenses. For example, a 40G/100G dual-rate QSFP28 module can connect legacy 40G switches to new 100G core switches without requiring additional media converters or hardware replacements. Similarly, 100G/112G modules support next-generation high-speed networks and PAM4 signaling for future-proof deployments.

Key Benefits

- Simplified Migration:** Gradually transition from older standards (e.g., 40G) to newer ones (100G) without replacing all switch ports.
- Cost Efficiency:** One module type serves multiple purposes, reducing spare inventory and procurement costs.
- Network Agility:** Quickly reconfigure links for different purposes, such as aggregation or core connectivity, based on real-time demand.
- Future-Proofing:** Supports higher-speed Ethernet standards and forward-error-correction (FEC) for evolving network requirements.

Technical Features

- Form Factor:** Typically QSFP28 for 100G dual-rate modules, compatible with standard QSFP ports.
- Fiber Type:** Supports multimode fiber (MMF) for short-reach applications or single-mode fiber (SMF) for long-reach deployments, with link lengths ranging from a few meters to 80 km depending on the module.
- Connector Interface:** Duplex LC or MPO connectors depending on the module type.
- Electrical Interface:** Compliant with IEEE 802.3 standards, supporting high-speed signaling such as NRZ or PAM4 for 100G/112G modules.
- Breakout Capability:** Some modules support 4x25G or 4x28G breakout modes, enabling flexible aggregation of multiple lower-speed links into a single 100G connection.

Applications

- Data Center Migration:** Enables phased upgrad...

Article Content

100GBASE Optical Transceivers and Cables Portfolio | FS

100G and OTU4 QSFP28 Dual Rate modules are designed for use in 100 Gigabit Ethernet and 4 x 28G OTN client interfaces. They are compliant with the QSFP28 MSA, IEEE 802.3ba 100GBASE-LR4,

100G Optical Module Selection Guide: Advantages and Types of

This optical module follows strict industry standard specifications and allows high-speed transmission of data in optical fibers by converting electrical signals into optical signals and vice

QSFP28 LR4 100GbE/OTU4 Universal Optical

The 100G QSFP28 LR4 optical transceiver transmits data over single mode fibre at a distance of up to 10km. The transceiver operates on 4 wavelengths and works

2x100G QSFP-DD Modules | Dual 100G Optical Transceivers

Our 2x100G QSFP-DD portfolio consists of transceivers which can operate over Single-Mode Fiber (SMF) or Multi-Mode Fiber (MMF), can be used for connection distances from a couple of meters up

Stock SFP28 25G 850NM 100M LC 5G 3G Optical Module

About this supplier FiberRun (Wuhan Fangran Technology Co., Ltd.) is a professional optical module and fiber communication component manufacturer established in 2020, headquartered in Wuhan

Introduction and application of dual-rate 100G QSFP28 LR4 optical ...

100G QSFP28 LR4 optical module People's desire for high-speed optical networks has promoted the vigorous development of the entire optical communications industry,including

Overview of 100G PAM4 Optical Modules with DWDM Technology

Discover the benefits, features, and applications of 100G PAM4 DWDM optical modules, and learn how they compare with coherent optics for modern network deployment.

100G QSFP28 Transceiver Modules | Optical

The 100G QSFP28 module solution provides high-performance 100GbE connectivity for data centres, enterprise core & distribution layers, computing networks and

QSFP-40/100-SRBD_100G SRBD_QSFP Module | USource-Optical

USource 40G/100G QSFP28 BIDI supports multi rate 40Gb/s and 100Gb/s bit rates. This Bi-Direction optical module is 100% compatible with CISCO QSFP-40/100-SRBD. The module integrates four

100Gb/s QSFP28 Transceivers

Amphenol's 100G QSFP28 optical modules include SR4, AOC, AOC break out, CWDM4, LR4, ER4 Lite, ER4 and ZR4 series, which adopt LC or MPO optical ports and are compatible with IEEE802.3bm,

A Complete Guide to Selecting 100G QSFP28 Optical Transceivers:

LINK-PP offers a comprehensive portfolio of reliable, MSA-compliant 100G QSFP28 optical modules, including all the types discussed: SR4, LR4, ER4, CWDM4, Single Lambda

Unveil FS 100/112G Dual-Rate Transceiver Module

A dual-rate transceiver means that an optical transceiver can support two different data rates. The newly released FS 100/112G dual-rate transceiver supports both 100G Ethernet (25G per

100G Optical Module: Single Fiber vs. Dual Fiber

Single-fiber Module: Uses two optical signals of different wavelengths for bidirectional transmission. For example, the wavelengths of a 100G single-fiber module may be 1271/1331nm,

Arista Optics Modules and Cables

Deployment flexibility with 800G (dual 400G), 400G, 100G, 50G, 40G, 25G, 10G or 1G modules. Hot swappable to maximize uptime and simplify serviceability Data rates from 1GbE to 25GbE supported

Optical Transceiver Manufacturer,QSFP-40/100-SRBD Dual-rate ...

2. Duplex LC-LC OM4 MM optical fiber patch cord, supporting the longest transmission distance of 100 meters. Compared with the 100G QSFP28 SR4 solution, the QSFP-40/100-SRBD

What Is a Dual-Rate 100G QSFP28 LR4 Optical Module? How to

While 100G data centers are now commonplace, and single-rate 100G QSFP28 modules (SR4, LR4, CWDM4, etc.) are widely recognized, a more advanced solution is gaining traction. In this article, we

100GBASE-LR4 and 112GBASE-OTU4 QSFP28 Dual

This transceiver is compliant with IEEE 802.3ba 100GBASE-LR4 and OTU4 4I1-9D1F standards. Digital diagnostics functions are also available via the I2C

Cisco QSFP28 100G ZR Digital Coherent Optics Module Data Sheet

The QSFP28 100G ZR can cost effectively extend 100G links to 80km on any fiber type, and is a cost-effective migration option of multiple 10G wavelengths to 100G.

Know Your 400G Transceiver | Juniper Networks

400 Gigabit Ethernet (400G) transceivers are optical modules capable of handling data rates of 400 Gbps. With a transmission rate of up to 400 Gbps, 400G transceivers offer double the capacity of

Contact Us

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